

## **REMARKS**

By this amendment, Applicants add claims 66, 67 and 68. Upon entry of the amendment, claims 46-49, 59-61 and 64-68 will be before the Examiner for consideration. Entry of the Amendment is respectfully requested.

On September 24, 2004, Applicants filed a Request for Interference under 37 C.F.R. § 1.607 in the present application. In a paper filed concurrently herewith, Applicants resubmit the Request for Interference to formally comply with the “new” interference rules, *i.e.*, 37 C.F.R. § 41.200 *et seq.*, and to account for new claims 66, 67, and 68.

### **New Claims 66-68 and the Previously Submitted Request for Interference**

#### **1. Background**

In Preliminary Amendment B dated July 7, 2004, Applicants added claims 46-49 and 59-61, which are identical to claims 1-4 and 14-16, respectively, of U.S. Patent No. 6,591,196 to Yakhini *et al.* (“Yakhini ‘196”), which issued on July 8, 2003.

In Preliminary Amendment C dated September 24, 2004, Applicants added claims 64 and 65, which are identical to claims 1 and 2, respectively, of U.S. Patent No. 6,768,820 to Yakhini *et al.* (“Yakhini ‘820”), which issued on July 27, 2004.

Concurrently filed with Preliminary Amendment C, Applicants filed a Request for Declaration of Interference with a Patent under 37 C.F.R. § 1.607 (“the Request”). In the Request, Applicants requested an interference between the present application and the Yakhini ‘196 and Yakhini ‘820 patents.

#### **2. Amended Claim 60 and New Claims 66-68**

The present amendment amends claim 60 by deleting the term “A” at the beginning of the claim.

The present amendment adds claims 66, 67, and 68. Claims 66, 67 and 68 are similar to Applicants' claims 46, 59, and 64, respectively. Claims 66, 67 and 68 are also similar to Yakhini '196 claim 1, Yakhini '196 claim 14, and Yakhini '820 claim 1, respectively.

Compared to the corresponding Applicants' and Yakhini claims, new claims 66 and 67 recite "image" in the place of "images"; "grid" in the place of "coordinate"; "identify the location of" in the place of "index"; and "located" in the place of "indexed." In the context of the claimed subject matter, these terms are synonymous with one another and recitations in new claims 66 and 67 correspond with terms described *ipsis verbis* in the present specification.

New claim 68 is added to clarify antecedent basis for a "second pattern" term (which was included in Applicants' claim 64 copied from Yakhini's '820 claim 1) and to eliminate an immaterial step.

Support for newly added claims 66, 67, and 68 can be found in the table set forth in Appendix A.

Entry and consideration of the foregoing is respectfully requested.

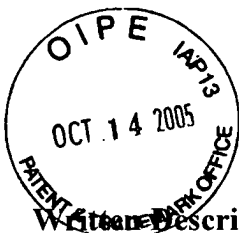
Authorization is hereby provided to charge any fees which may be required, including any claim fees and/or fees necessary to maintain the pendency of this application, or credit any overpayment to Deposit Account 01-0431.

Respectfully submitted,  
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Date: 10/14/05

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## Appendix A

### Written Description For New Claims 66, 67, and 68 In Applicants' Specification

<u>Applicants' New Claims</u>	<u>Disclosure in Applicants' Specification</u>
66. A method, embodied in a computer program, for automated extraction data from a molecular array having features arranged in a regular pattern, the method comprising:	Figure 3; Page 6, line 22 to page 7, line 4; Page 7, line 24 to page 8, line 16; Page 11, lines 14-26; Pages 18-20.
receiving an image of the molecular array, produced by scanning the molecular array to determine intensities of data signals emanating from discrete positions on a surface of the molecular array;	Figure 1; Page 7, line 24 to page 8, line 16; Page 11, line 21 to page 12, line 8.
estimating initial positions of selected marker features within the image of the molecular array;	Figures 10 and 11; Page 12, lines 9-16; Page 13, line 24 to page 14, line 14.
calculating refined positions of the selected marker features within the image of the molecular array;	Page 13, lines 5-18; Page 16, line 5 to page 17, line 12.
using the refined positions of the selected marker features to compute a grid for locating features of the molecular array in the image of the molecular array;	Page 15, lines 17-18; Page 16, line 5 to page 17, line 12.
using the initial grid system to locate positions of strong features within the image of the molecular array;	Figure 13; Page 16, lines 6-15.
refining the positions of strong features within the image of the molecular array by analyzing data signal intensity values in regions of the image of the molecular array that contain the strong features;	Figure 13; Page 16, lines 6-23.
using the refined positions of strong features in the image of the molecular array to calculate a refined system to locate positions of weak features within the image of the molecular array;	Page 16, lines 19-23.
using the refined positions of strong features in the image of the molecular array to calculate a refined grid system to locate positions of local background regions surrounding all strong and weak features within the image of the molecular array; and	Page 16, lines 19-23.

extracting data from strong features, and their respective local background regions, within the image of the molecular array using the refined positions of strong features within the image of the molecular array and extracting data from weak features, and their respective local background regions, within the image of the molecular array using locations for the weak features calculated from the refined grid system.	Page 11, lines 21-26; Page 15, lines 5-21.
67. A system for automated extraction of data from a molecular array having features arranged in a regular pattern, the system comprising:	Figure 3; Page 6, line 22 to page 7, line 4; Page 7, line 24 to page 8, line 16; Page 9, line 25 to page 10, line 10; Page 11, lines 14-26.
a scanning component that produces an image of the molecular array representing intensities of data signals emitted from discrete positions on a surface of the molecular array;	Figure 1; Page 7, line 24 to page 8, line 16; Page 11, line 21 to page 12, line 8; Page 15, lines 1-12.
a computer program that processes the image of the molecular array produced by the scanning component to identify the location of features in the image of the molecular array corresponding to molecules bound to features of the molecular array and that extracts data from the located features within an image of the molecular array;	Page 11, lines 17-26; Pages 18-20.
and a computer for executing the computer program.	Figures 1 and 3; Page 6, line 22 to page 7, line 4.
68. A method for evaluating an orientation of a molecular array having features arranged in a pattern, the method comprising:	Page 3, lines 16-19.
(a) receiving an image of the molecular array produced by scanning the molecular array to determine data signals emanating from discrete positions on a surface of the molecular array;	Page 8, lines 3-16; Page 11, lines 14-26.
(b) calculating an actual result of a function on pixels of the image lying in a pattern; and	Page 16, lines 8-15.
(c) altering the orientation of the pattern on the array and repeating steps (a) and (b) as needed until the results of the comparison are within the predetermined difference.	Figure 13; Page 16, lines 13-23.